

Food safety after a stem cell transplant

Why should I be concerned about food safety?

When a food makes you sick, it is called a foodborne illness or food poisoning.

You will need to take extra care to make sure your food is as safe as possible to prevent getting a foodborne illness.

A foodborne illness is a concern if your immune system is weak or if you undergo a bone marrow or stem cell transplantation.

When is food unsafe to eat?

Food can be unsafe to eat when bacteria and other microorganisms, called pathogens, grow on it. You will not be able to see, smell or taste bacteria or pathogens in the food.

Sources of bacteria and other pathogens may be from:

- the person making or handling the food
- the environment (where the food is grown)
- the food itself may be “going bad”

Usually, bacteria levels are low enough that they are not a risk to the average person. But, if your immune system is weak or you have undergone a bone marrow or stem cell transplantation, you may be at a higher risk for infection. **You must be sure that the food you eat is safe.**

By following safe food handling habits you can decrease your risk of getting sick from the food.

This handout will help you learn how to keep your food safe and healthy to eat.

What do I look for at the grocery store?

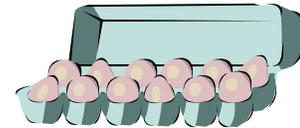
At the grocery store look for:

Canned or packaged foods



- Buy cans or jars that are free of dents, cracks, bulges, leaks and rust.
- Check that packaged and boxed foods are properly sealed.

Fresh food



- Make sure eggs are not cracked or broken and have been refrigerated.
- Select fruits and vegetables without spots or soft spots.
- Avoid deli foods such as cold cuts and salads.
- In the bakery, avoid cream and custard containing desserts and pastries that are not in a refrigerator or freezer.

Dates

- Check the "best before" dates on dairy products and avoid buying items on or near this date.
- Buy foods that state "packaged on" the day that you buy them such as meat and cheese.
- Check packaging date on fresh meats, poultry and seafood. Check for strange smells, mould or insect contamination.
- Check "sell by" and "use by" dates.



Other

- Avoid foods from bulk bins.
 - Avoid tasting free food samples.
 - Purchase frozen and refrigerated foods last, especially during the summer months.
 - During the warmer months, use a cooler with ice packs to transport frozen and refrigerated foods home from the grocery store.
 - Store groceries promptly; never leave food in a hot car. Cold and hot food should never be kept at room temperature longer than 2 hours.
-

What foods do I need to avoid?

The foods listed below could have high levels of bacteria.

Raw or uncooked food:

- Fish such as sushi, sashimi, ceviche and cold smoked lox.
- Shellfish such as oysters.
- Meat such as steak tartare or any other raw meats including pork or chicken.
- Eggs used in caesar salad dressing, homemade ice cream, homemade egg nog, and cookie and cake batters. Commercial, pasteurized egg products such as Egg Beaters[®] can be substituted in recipes calling for raw eggs.
- Raw fruit with a rough texture, such as raspberries.
- Raw uncooked grain products.
- Raw nuts and nuts roasted in the shell.
- Raw, undercooked brewer's yeast
- Raw vegetable sprouts such as bean and alfalfa.

Other foods to avoid:

- Non-pasteurized honey, milk, cheese, vegetable and fruit juice (apple cider) and beer (homemade or micro-brewed).
 - Non-refrigerated cream and mayonnaise based foods such as tuna or macaroni salad, custards, puddings, cream sauces, or other egg dishes.
 - Mate tea.
 - Deli meats, hot dogs and preserved meats.
 - Well water, unless tested regularly and found safe. For more information on well water, contact your local health department.
 - Uncooked cultured foods such as yogurt, kefir, kimchi, fresh sauerkraut, tempeh or miso.
-

How do I keep my food safe at home?

Use the following guidelines to reduce your risk of infection at home:

Personal care



- Wash hands with soap and warm water for 20 seconds before and after handling food.
- Wash your hands again when you switch from one food to another.
- Wash hands before eating, especially when eating finger foods and other hand-held foods.
- Wash hands after using the washroom, handling garbage, touching pets, sneezing, coughing, blowing your nose, smoking, touching dirty cutting boards or dirty dishes.

Work surfaces and kitchen equipment



- Use separate cutting boards for cooked and raw foods. Use a different colour cutting board for each use. For example, use:
 - a red cutting board for raw meats
 - a yellow cutting board for cooked meats, and
 - a green cutting board for fruits and vegetables.
 - After contact with raw meat, fish or chicken, rinse cutting boards, counter tops and utensils in hot soapy water and sanitize. Sanitize using a spray bottle that contains 5 ml of household bleach and 750 ml of water. Rinse with clean water and use a clean towel to dry or air dry.
-

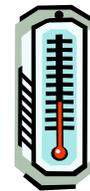
- When BBQing, use two plates; one to carry the raw meat to the BBQ, and the other to bring the cooked meat to the table.
- Clean food particles from kitchen appliances such as microwave oven, toaster, can openers, blenders and mixer blades. Remove the blender blades and bottom when washing the glass. Use a bleach solution to sanitize these items.
- Keep counter and kitchen surfaces free of food particles.

Sink area

- Use a liquid soap for hand washing.
 - Use paper towels for drying hands instead of a dish or hand towel.
 - Replace dishcloths and dish towels daily.
 - Sanitize dishcloths daily in a bleach solution.
 - Do not use sponges as they are a breeding ground for bacteria.
 - Do not store food supplies under the sink. Do not store chemicals and cleaning solutions near the food supplies.
 - Use a liquid dish soap when hand washing dishes and pans.
-

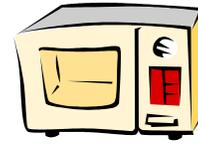
What is the safest way to cook food?

- Thaw meat, fish, or poultry in the refrigerator or microwave in a dish to catch the drips. Use defrosted foods right away. Do not refreeze.
- Wash fruits and vegetables thoroughly under running water before peeling and cutting.
- Wash tops of cans before opening and do not use if top of can is rusty.
- Cook meat until it is no longer pink. Red meats should be cooked to an internal temperature of 74°C or 165°F, poultry to 82°C or 180°F and fish to 70°C or 158°F.
- Cook ground meats until well done.
Ground beef: 71°C or 160°F.
Ground poultry: 74°C or 165°F.
Keep food at safe holding temperatures. Use a thermometer.
Safe holding temperatures are:
 - Hot foods** Keep to an internal temperature above 60°C or 140°F.
 - Cold foods** Keep to an internal temperature below 5°C or 41°F.
- Cook eggs for at least 3 minutes. The yolks must be cooked through and hard.
- When using the BBQ, precook meats in a microwave or frying pan to make sure they are cooked through.
- While preparing food, do not taste the food with the same utensil used for stirring.
- Never leave high risk or perishable food out of the refrigerator for over 2 hours. Egg dishes and cream and mayonnaise based foods should not be left out of the fridge for more than 1 hour.
- Cook tofu by cutting into 1" cubes and boil for 5 minutes before eating or adding to a stir-fry.
- **Never taste food that looks or smells strange.**



Microwave cooking

- Microwave cooking can leave cold spots in food where bacteria can grow. To avoid this, rotate the dish a $\frac{1}{4}$ turn once or twice during cooking if there is no turntable on the appliance.
- Cook foods in the microwave to an internal temperature of 88°C or 190°F.
- When heating leftovers, do not use plastic bowls or wrap unless they are labelled as microwave safe. Stir several times during re-heating.



Slow cooker

- **Do not** use slow cookers. In slow cookers, food is cooked for a long time at temperatures ideal for bacteria to grow.



Food storage guidelines

Use these guidelines to safely store food at home.

Fridge and freezer

Throw out:

- Eggs with cracked shells.
- Food older than the "use by" expiration dates.
- All prepared foods after 24 hours.
- Entire food packages or containers with any signs of mould present. This includes yogurt, cheese, cottage cheese, fruit, vegetables, jelly, bread and pastry products.
- Foods with freezer burn or mould.



Storing:

- Keep raw foods such as meat, chicken and fish away from ready to eat foods. Store them in their own containers or plastic bags.
- Store all leftover food in covered containers after cooling. Hot foods need to be put in the refrigerator uncovered to cool. Once cooled, cover the container and make sure the covers are sealed tightly.
- Divide large amounts of leftovers into small, shallow containers for quick cooling in the refrigerator.
- Keep leftovers in the refrigerator no longer than 24 hours.

Cleaning:

- Clean up spills right away.
- Keep shelves and doors sanitized.

Cupboards and pantry:

- Throw out and do not taste food in bulging, leaking or cracked cans or cans dented in the seam area.
- Rotate food stock so older items are used first. Keep track of expiration dates.
- Keep cupboards clean. Watch for signs of insects or rodents.
- If you use home-canned foods, look for mold and leaks. Check seals. Look for signs of improper processing such as a bulging lid or food that has a bad smell or looks strange after opening.

If in doubt, throw it out.

How long can safely store food in the fridge or freezer?

Use this chart as a guide to find out how long you can safely store uncooked food in the fridge and freezer.

Type of Food	Fridge	Freezer
Eggs	3 weeks	do not freeze
Cheese - firm	2 to 3 months	3 months
Fruits and vegetables	5 to 7 days	1 year
Beef such as roasts, steak	2 to 3 days	10 to 12 months
Chicken and turkey	2 to 3 days	6 to 12 months
Hamburgers and sausages	1 to 2 days	2 to 3 months
Lamb, pork and veal	3 to 5 days	8 to 12 months
Bacon	1 week	1 month
Ham	1 week	1 to 2 months
Fish	3 to 4 days	1 month

For more information on safe food handling contact the your local public health department.

Can I eat at restaurants?

Yes, you can eat at a restaurant. These guidelines will help you to keep the food you eat safe:

- Eat early to avoid crowds.
- Select restaurants with a reputation for cleanliness.
- Ask that food be prepared fresh in fast food establishments.
- Ask for single-serving condiment packages. Avoid self-serve bulk condiment containers.
- Avoid salad bars, delis, buffets and smorgasbords, sidewalk vendors, pot luck meals, and soft-serve ice cream, milkshake or yogurt machines.

Be careful when travelling or keeping food outdoors. Pack foods in a cooler with ice packs to prevent growth of bacteria.

If you have questions, please ask your dietitian or dietetic assistant.

Dietitian: _____

Dietetic Assistant: _____

Phone: _____ Ext. _____

For more information go to the Canadian Food Inspection Agency website: www.inspection.gc.ca